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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/242,490	05/13/1999	MINORU USUI	Q53288	1121

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EXAMINER

NGHIEM, MICHAEL P

ART UNIT PAPER NUMBER

2861

DATE MAILED: 11/30/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/242,490

Applicant(s)

USUI ET AL.

Examiner

Michael P Nghiem

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 is/are allowed.
- 6) ☒ Claim(s) 20-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The Amendment filed on October 1, 2001 has acknowledged.

Claim Objections

1. Claims 24, 26, and 27 are objected to because of the following informalities:

- claim 24, should delete "at an" (line 2), "axial terminus" (line 2) should be – said axial terminus --.

- claim 26, "groves" (line 2) should be – grooves --, line 3, "-" should be -- . --.

- claim 27, ";" (line 1) should be – , --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 20-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyd et al. (US 5,812,165).

Boyd et al. discloses all the claimed limitations including:

- an ink supply passage structure (Figs. 2, 4, 5) comprising:
 - a first ink supply path (38b) having a first open end (44), wherein said first ink supply path axially terminates at the first open end (Fig. 2);
 - a second ink supply path (40b) connected to and extending from the first open end to be communicated with the first ink supply path (Fig. 2), wherein the second ink supply path is at least as large in cross sectional area as the first ink supply path (Fig. 5), and the first open end of the first ink supply path forms an axial terminus of the second ink supply path (40b terminates at 44, Fig. 2);
 - a protrusion (protrusion between 50) and/or groove (50) axially provided to the second ink supply path (Fig. 4), wherein the protrusion and/or groove is contiguous to at least the first open end of the first ink supply path (Fig. 5),
 - the protrusion and/or groove axially terminates at the first open end of the first ink supply path (Fig. 3),
 - the protrusion and/or groove axially extends between the first and second ink supply paths across the first open end of the first ink supply path (protrusion and 50 extend across between walls of 40b at 44 between ink supply paths),
 - the second ink supply path is in the form of a conical chamber (40b, Fig. 2),

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- a filter (42) located at an opposite said axial terminus of the second ink supply path (42 opposes axial terminus of 40b, Fig. 2),

- a plurality of protrusions are arranged along an inner circumference of the second ink supply path so that an ink induction path is formed between each adjacent pair of the protrusions (two protrusions between 50, Fig. 4),

- a plurality of grooves are arranged along an inner circumference of the second ink supply path so that each of the grooves forms an ink induction path (Fig. 4).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20-22 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Koto (US 4,368,478).

Koto discloses all the claimed limitations including:

- an ink supply passage structure (Fig. 3) comprising:

- a first ink supply path (path left of 56, Fig. 3) having a first open end (end occupied by 54 yet in fluid communication with 55, Fig. 3), wherein said first ink supply path axially terminates at the first open end (Fig. 3);

- a second ink supply path (path right of 54) connected to and extending from the first open end to be communicated with the first ink supply path (Fig. 3), wherein the second ink supply path is at least as large in cross sectional area as the first ink supply path (Fig. 3), and the first open end of the first ink supply path forms an axial terminus of the second ink supply path (second path terminates at first open end, Fig. 3);
- a protrusion (90) and/or groove (grooves between 90, Fig. 9a) axially provided to the second ink supply path (Fig. 9a), wherein the protrusion and/or groove is contiguous to at least the first open end of the first ink supply path (Fig. 3),
- the protrusion and/or groove axially terminates at the first open end of the first ink supply path (Fig. 3),
- the protrusion and/or groove axially extends between the first and second ink supply paths across the first open end of the first ink supply path (90 and grooves extend across between walls 55a at open end between ink supply paths),
- a filter (53) located at an opposite axial terminus of the second ink supply path (53 opposes terminus of second supply path via 54, Fig. 3),
- a plurality of protrusions are arranged along an inner circumference of the second ink supply path so that an ink induction path is formed between each adjacent pair of the protrusions (Fig. 9a),
- a plurality of grooves are arranged along an inner circumference of the second ink supply path so that each of the grooves forms an ink induction path (Fig. 9a).
- the protrusion is formed of material having ink affinity (protrusion has surface treatment, column 7, lines 5-10).

Allowable Subject Matter

4. Claims 1-19 are allowed.

Reason For Allowance

5. The combination as claimed wherein an ink jet recording apparatus comprising a joint area being tapered such that a cross-sectional area of said joint area gradually changes along a direction from said second ink supply path to said first ink supply path (claims 1, 15) or ink induction paths are formed by mounting a rib formation member in an enlarged portion (claim 10) or ink induction paths are formed in a holder that is mounted in an enlarged portion, said holder including a rod-shaped member that is positioned coaxially with said second ink supply path (claim 12) is not disclosed, suggested, or made obvious by the prior arts of record.

Response to Arguments

6. Applicant's arguments filed October 1, 2001 have been fully considered but they are not persuasive.

With respect to the newly added claims 20-27, Applicants argue that they more fully protect the present invention.

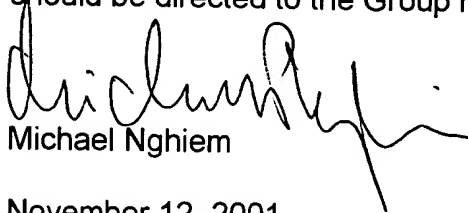
Examiner's position is that the limitations recited in claims 20-27 are anticipated by Boyd et al. and Koto as discussed above. Boyd et al. and Koto disclose an ink supply passage structure comprising a first ink supply path in communication with a second ink supply path (Fig. 2, Boyd et al., Fig. 3, Koto).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (703) 306-3445. An inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at (703) 308-0956.



Michael Nghiem

November 12, 2001